Amendments to the Abstract:

Please replace the Abstract with the following amended Abstract:

There is disclosed a \underline{A} process for producing an ammonium polythiomolybdate of the formula $(NH_4)_2Mo_3S_{13}$ on H_2O where n is 0, 1 or 2 comprising reacting in which an aqueous ammoniacal molybdate solution is reacted with hydrogen sulfide gas in a closed system at superatmospheric pressure until the H_2S is no longer absorbed by the solution, said solution and said gas being in a closed system and the flow of said gas being regulated at an elevated pressure to form a slurry consisting essentially of a solid essentially all of which is ammonium tetrathiomolybdate containing a portion of the starting molybdenum in a mother liquor containing the balance of the molybdenum and thereafter heat soaking the reaction product at elevated temperatures in the presence of elemental sulfur to form the desired product.